

**WHAT IS CLAIMED IS:**

1. A thin film transistor array panel comprising:
  - 2 a substrate;
  - 3 a gate line formed on the substrate and including a gate electrode;
  - 4 a gate insulating layer formed on the gate line;
  - 5 a semiconductor layer formed on the gate insulating layer;
  - 6 a data line formed at least in part on the semiconductor layer;
  - 7 a drain electrode formed on the semiconductor layer at least in part and separated from
  - 8 the data line;
  - 9 a first passivation layer formed on the data line and the drain electrode;
  - 10 a first protrusion formed on the first passivation layer and disposed opposite the data line;
  - 11 and
  - 12 a pixel electrode formed on the first passivation layer and connected to the drain
  - 13 electrode.

- 1 2. The thin film transistor array panel of claim 1, wherein the pixel electrode has a
- 2 cutout.

- 1 3. The thin film transistor array panel of claim 2, further comprising a second
- 2 protrusion disposed in the cutout.

- 1 4. The thin film transistor array panel of claim 2, further comprising a storage
- 2 electrode line overlapping the pixel electrode.

1           5.     The thin film transistor array panel of claim 4, wherein the storage electrode line

2     comprises an expansion overlapping the drain electrode.

1           6.     The thin film transistor array panel of claim 4, wherein the storage electrode line

2     comprises a branch overlapping the cutout.

1           7.     The thin film transistor array panel of claim 1, wherein the first protrusion is

2     wider than the data line.

1           8.     The thin film transistor array panel of claim 1, wherein the data line is curved.

1           9.     The thin film transistor array panel of claim 1, further comprising a spacer having

2     a height larger than the first protrusion and disposed on the same layer as the first protrusion.

1           10.    The thin film transistor array panel of claim 9, wherein the first protrusion and the

2     spacer comprise organic material.

1           11.    The thin film transistor array panel of claim 1, further comprising a color filter

2     disposed between the first passivation layer and the first protrusion and the pixel electrode.

1           12.    The thin film transistor array panel of claim 11, further comprising a second

2     passivation layer formed on the color filter and the first protrusion and the pixel electrode.

1           13.    The thin film transistor array panel of claim 1, wherein the semiconductor layer

2     has substantially the same planar shape as the data line and the drain electrode.

1        14. A thin film transistor array panel comprising:  
2            a substrate;  
3            a gate line formed on the substrate and including a gate electrode;  
4            a gate insulating layer formed on the gate line;  
5            a semiconductor layer formed on the gate insulating layer;  
6            a data line formed at least in part on the semiconductor layer;  
7            a drain electrode formed on the semiconductor layer at least in part and separated from  
8            the data line;  
9            a first passivation layer formed on the data line and the drain electrode and having a  
10          contact hole exposing the drain electrode at least in part;  
11          a pixel electrode formed on the first passivation layer and connected to the drain  
12          electrode through the contact hole; and  
13          a protrusion formed on the first passivation layer and disposed in the cutout at least in  
14          part.

1        15. The thin film transistor array panel of claim 14, further comprising a storage  
2          electrode line overlapping the pixel electrode.

1        16. The thin film transistor array panel of claim 15, wherein the storage electrode line  
2          comprises an expansion overlapping the drain electrode.

1        17. The thin film transistor array panel of claim 15, wherein the storage electrode line  
2          comprises a branch overlapping the cutout.

1 18. The thin film transistor array panel of claim 14, wherein the data line is curved.

1 19. The thin film transistor array panel of claim 14, further comprising a spacer

2 having a height larger than the protrusion and disposed on the same layer as the protrusion.

1 20. The thin film transistor array panel of claim 19, wherein the protrusion and the

2 spacer comprise organic material.

1 21. The thin film transistor array panel of claim 14, further comprising a color filter

2 disposed between the first passivation layer and the protrusion and the pixel electrode.

1 22. The thin film transistor array panel of claim 21, further comprising a second

2 passivation layer formed on the color filter and the protrusion and the pixel electrode.

1 23. The thin film transistor array panel of claim 1, wherein the semiconductor layer

2 has substantially the same planar shape as the data line and the drain electrode.

1 24. A liquid crystal display comprising:

2 a first substrate;

3 a gate line formed on the first substrate;

4 a data line intersecting the gate line;

5 a thin film transistor connected to the gate line and the data line;

6 a pixel electrode connected to the thin film transistor and having a first cutout;

7 a second substrate facing the first substrate;

8           a common electrode formed on the second substrate and having a second cutout; and  
9           a first protrusion disposed in at least one of the first and the second cutouts at least in  
10          part.

1           25.       The liquid crystal display of claim 24, further comprising:  
2           a light blocking member disposed on one of the first and the second substrates; and  
3           a color filter disposed on one of the first and the second substrates.

1           26.       The liquid crystal display of claim 24, further comprising a second protrusion  
2          disposed on the data line.

1           27.       The liquid crystal display of claim 24, wherein the first cutout does not overlap  
2          the second cutout.